

REMARKS

Claims 1 -17 remain pending in this application. Claims 6, 9 and 13 have been objected to as being based on a rejected base claim, but are otherwise considered allowable. Claim 12 was also considered allowable if amended to overcome the rejection under § 112, second paragraph. As noted below, applicants have adopted the helpful suggestion provided by the Examiner for amendment of claim 12, so this claim should also be considered allowable.

Rejections - § 112, second paragraph

Claims 2 and 12 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Specifically, the Office takes the position that since the polymer B1 in claim 1 is fully hydrogenated, the recitation of claim 2 that provides for “a partially hydrogenated polybutadiene” is inconsistent with claim 1. However, claim 1 is not limited to a fully hydrogenated (100%) polybutadiene, but is directed to polybutadienes other than an unhydrogenated polybutadiene. The present specification makes clear (e.g., see page 8, compare (1) and (2); page 16, lines 11-24, page 18, lines 1-11, indicating a degree of hydrogenation of 5% as higher produces the effect of partial hydrogenation) that polybutadienes within the scope of the present invention must be at least partially hydrogenated. The specification as a whole, including page 13, lines 13-19, indicates that the polymer B1 should not include any rubber-modified polystyrene containing unhydrogenated polybutadiene. When properly understood in the context of this invention, the term “hydrogenated” in claim 1 would be understood as being directed to a polybutadiene that is at least partially hydrogenated, without importing any

additional limitation not present in the claim that the polybutadiene is “fully” hydrogenated. Accordingly, this rejection should be withdrawn.

Claim 12 has been rejected because the term “pentaerythritol diphosphite derivative” is indefinite. Although applicants disagree with this conclusion, the helpful suggestion of the Examiner to substitute the term “compound” for the term “derivative” has been adopted to avoid this rejection. Accordingly, this rejection should be withdrawn.

Claims 16 and 17 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because recitation of the term “large” renders these claims indefinite. The Office states that those skilled in the art would not be reasonably apprised of the scope of the invention, and that numerical definition is required. Applicants respectfully disagree.

As noted in MPEP 2173.05(b), the mere fact that claim language includes terms of degree does not automatically render the claims indefinite. Acceptability of the claim language depends on whether those skilled in the art would understand what is claimed, in light of the specification. The present invention is directed to a process capable of producing a resin composition having excellent thermal stability, external appearance, and strength that is particularly suitable for use in large molded articles being produced according to recent trends toward size increase. See e.g., page 2, line 19 to page 3, line 4 of the specification. In this context, the term “large” is used to distinguish the invention in claims 16 and 17 from relatively small-sized molded articles where the problems with molding and external appearance have not been so problematic.

Accordingly, the term "large" would be understood with reasonable certainty by those skilled in the art, so this rejection should be withdrawn.

Rejection 35 U.S.C. § 103

Claims 1-5, 7, 8, 10 and 14-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Asahi Chemical JP-05-098147 (JP '147) or Asahi Chemical JP-05-339420 (JP '420) in view of Asahi Chemical JP-03-143953 (JP '953) or Katchman et al. (U.S. Patent No. 4,128,604). After pointing out what each reference is argued to disclose, the Office takes the position that the claimed process and article would be obvious because it is allegedly obvious to simply add ingredients together that are customarily used in impact resistant PPE compositions. The Office further speculates that the order of addition and pelletizing are obvious variations and all properties are allegedly inherent in the composition that can be derived from a combination of at least three references. As the examiner should recognize, the principle of inherency is only appropriate where the recited properties are necessarily present all the time, but not when they are simply a possibility or even a probability. See e.g., MPEP 2112 (iv). The examiner has not created a prima facie case of inherency under the circumstances of this case.

Neither JP '147 nor JP '420 disclose a two-stage melt-kneading process wherein the first step uses a first styrene resin at least 80% by weight of which is (B1) a rubber-modified polystyrene containing a hydrogenated polybutadiene and/or a styrene homopolymer. Neither of the secondary references provide any reason to add such a rubber-modified polystyrene to this first step.

In JP '147, a two-stage process is disclosed, but the first step involves the addition of an unsaturated carboxylic acid or derivative thereof and an organic peroxide for the purpose of modifying the poly(phenylene ether). A rubber-modified polystyrene is not added in this step. Similarly, JP '420 discloses a two-stage process where only homopolystyrene is added in the first step. Neither document discloses or suggests the use of a rubber-modified polystyrene containing a hydrogenated polybutadiene and/or a styrene homopolymer in the first melt-kneading step as required in the present claims. The Office has not provided any technical reason why the processes disclosed in these documents would be modified by those skilled in the art in a manner that would result in the claimed process.

Neither JP '953 nor Katchman et al. provide any reason to modify the processes taught by either JP '147 or JP '420 in a manner required to result in the claimed process. JP '953 is discussed in the present specification (page 4) as patent document 2, and is directed to a single-stage process using a single extruder that uses a rubber-modified polystyrene containing a hydrogenated polybutadiene, but does not suggest a two-step process and does not teach or suggest the use of a rubber-modified polystyrene containing a polybutadiene having 90% or higher cis-1,4 bonds in the second step. Similarly, Katchman et al. is directed to a single stage process and also does not teach or suggest the use of a rubber-modified polystyrene containing a polybutadiene having 90% or higher cis-1,4 bonds in the second step. Accordingly, since the references relied on by the Office, whether considered alone or in combination, fail to teach or suggest or provide any reason to modify or combine the

teachings of the references in a manner that would result in the claimed invention, this rejection should be withdrawn.

Prompt and favorable reconsideration of this application is requested.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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